LIMITED SOURCES JUSTIFICATION/FEDERAL SUPPLY SCHEDULES

1. The National Aeronautics and Space Administration/Goddard Space Flight Center (NASA/GSFC) proposes to place Task Order # NNG14FC86T under Federal Supply Schedule FSS 871 for Professional Engineering Services under GSA Contract Number GS-23F-0345K with Genesis Engineering Solutions Inc. (GES) in support of the James Webb Space Telescope (JWST). This document justifies the determination for restricting consideration of schedule contractors to fewer than required in Federal Acquisition Regulation (FAR) 8.405-6, Limiting Sources. This Task Order falls under the authority of the Multiple Award Schedule Program.

2. Nature and/or description: NASA/GSFC proposes to award a sole source task order to GES for an approximate 5-month base period, plus 4 one-year options. This task order provides support for the demonstration and verification of JWST thermal requirements, performance, and design, development and implementation of special test equipment, and surrogate hardware and flight hardware for JWST. Task Order NNG12FC80T was competitively awarded on February 1, 2012, with a period of performance through September 30, 2013. Prior to expiration, a 3-month extension through December 31, 2013, was added in order to allow time for the follow-on procurement to be awarded. On December 20, 2013, a no-cost extension through January 24, 2014 was authorized to allow GES to complete tasks that were affected by the Government shutdown. Because market research and acquisition planning for the follow-on procurement was also delayed due to the Government shutdown, and because of the number of actions being worked during that timeframe by the JWST acquisition team, an additional 6-month extension through July 25, 2014, was awarded. Task Order NNG14FC86T is being proposed as the follow-on procurement to continue support to the JWST Engineering Support requirement.

3. Description of Supplies or Services: The products and services required include hardware and engineering services essential to thermal-optical verification of the JWST Observatory. Specifically, the Contractor shall deliver and support the use of a Beam Image Analyzer (BIA) for the Optical Telescope and Integrated Science Instrument Module (OTIS) test campaign at NASA's Johnson Space Center (JSC) and related activities (e.g., optical ground support equipment (OGSE) test configuration, planning, data analysis), deliver the Integrated Science Instrument Module (ISIM) Instrument Compartment (IEC) Conformal Shields and Micrometeroid Shields, support the second test of the core region of the observatory "Core 2" definition, design and implementation, and supply engineering support services thereto. Related activities include test configuration, planning, data analysis, engineering support services, and developing relevant documentation.

The task order will be for an approximate 5-month base period, plus 4 one-year options. The base period of the task order will be from the end of the current task order (NNG12FC80T) through December 31, 2014. The option periods will be for one year beginning in January of each calendar year so that each option can be fully funded. Funding for the project is typically received 1-3 months after the beginning of the fiscal year. The proposed schedule will be optimal for fully funding each option period. The base period will be fully funded and the subsequent periods will be included as an option to be exercised in accordance with FAR clause 52.217-9. The in-house estimate was completed based on the total five periods of performance.

A breakdown of the base and option periods and price are as follows:

Base:	July 26, 2014 – December 31, 2014	**$[text deleted]**
Option 1:	January 01, 2015 – December 31, 2015	**$[text deleted]**
Option 2:	January 01, 2016 – December 31, 2016	**$[text deleted]**
Option 3:	January 01, 2017 – December 31, 2017	**$[text deleted]**

Option 4:	January 01, 2018 – December 31, 2018	**$[text deleted]**
Total		**$[text deleted]**

4. Authority and supporting rationale: The authority for this acquisition is FAR 8.405-6 (a)(1)(i)(B), only one source is capable of providing the supplies or services required at the level of quality required because the supplies or services are unique or highly specialized.

Design, development, and implementation of the BIA for OTIS testing at JSC requires a contractor with detailed knowledge and experience with the current BIA, as well as familiarity and experience with the Optical Telescope Element (OTE) Simulator (OSIM) and interfaces within and among the OTE, ISIM, Sunshield, Spacecraft, and Cryocooler. Only GES can credibly satisfy these criteria because the company designed and built the existing BIA, and thus possesses specialized knowledge and skills that are not available from other sources. The existing BIA is the master optical verification tool used to align the OSIM during the ISIM cryo-vacuum (CV) test series campaign (CV1-Risk Reduction, CV2 and CV3); OSIM will be used to verify the ISIM instruments as the diagnostic sensors that will in turn verify the OTE during testing of OTIS. The prelude to flight OTIS testing at JSC involves three tests: Optical Ground Support Equipment (OGSE) test #1 (OGSE1), OGSE2, and the Thermal Pathfinder. An additional BIA will be required during OGSE1 and OGSE2. GES is uniquely qualified technically to provide another BIA and associated engineering support associated with OGSE1 and OGSE2, as well as interpreting plans for and results from Thermal Pathfinder and the flight OTIS test itself, as they relate to BIA design and performance.

5. Best value determination: Contracting with GES represents the lowest cost and lowest risk option and provides the best value for the Government. The hardware development schedule associated with OTIS testing and related work is very tight. Planned test hardware development must be accomplished per the current schedule to avoid observatory critical path delays and consequent cost impacts that could violate the JWST Program Commitment Agreement, for example, to deliver the BIA to JSC in January 2015. GES's performance on the current GSA contract demonstrates that GES will support the JWST project's challenging schedule.

The period of performance for GSA Contract Number GS-23F-0345K is currently through July 11, 2015. A 5-year option is available for this contract. It is anticipated that the work under this order will be performed at hourly rates. GSA has already determined the hourly rates under Federal Supply Schedule contracts to be fair and reasonable. Additionally, the Government will ask for additional discounts in accordance with FAR 8.405-4. These combined efforts will result in the government receiving the best value (as defined in FAR 2.101) and the lowest overall cost alternative to meet the Government's need.

6. Market research: Market research gathered was based on the results of the two previous competitions to award this requirement. The first requirement was competed in October 2010, but only one vendor, GES, showed interest. The second requirement was competed in November 2011, with only two vendors bidding, GES and **[text deleted]**. **[text deleted]** offer was found to be technically deficient and was not selected to meet the Government requirements.

This requirement requires the contractor to have past experience with the development of the following subsystems: ISIM, IEC, OTE, OSIM, and BIA. The contractor must have detailed knowledge and experience with the IEC and with its conformal shields because the IEC is the overwhelmingly dominant source of unwanted heat on the "cold" cryogenic side of the JWST Observatory. This also extends to support of the Flight Core test that will verify heat flows among the IEC, Spacecraft, Sunshield, and Cryocooler elements and the OTIS super-element of the Observatory. The Flight Core test is a fundamental part of JWST Observatory thermal verification. Furthermore, this work requires a

Contractor with detailed knowledge and experience with the current BIA, as well as familiarity and experience with the OSIM and interfaces within and among the OTE, ISIM, Sunshield, Spacecraft, and Cryocooler. Based on the aforementioned requirements and the JWST Technical Deputy Project Manager's knowledge of engineering and experience grounded in work on two Hubble servicing missions and holding multiple positions of responsibility on the JWST Project since 1997, GES is the only capable vendor that meets the requirements and constraints for this procurement.

7. Other facts supporting use of limited sources: Contracting with GES, which has the requisite knowledge and experience to perform the work, not only mitigates schedule risk, but also eliminates the additional non-recurring expenditures of time and money that would be necessary with another entity (even if it were practical). GES designed and built the existing BIA and thus possesses specialized knowledge and skills that are not easily or practicably transferrable to another party

8. Actions to overcome barriers to competition: There are currently no efforts to overcome barriers to competition in future acquisitions as every possible effort has been made to include all schedule holders under the Federal Supply Schedule. Any subsequent acquisition for these services will be given the same level of analysis as the current schedule holders, since the products and services they provide can change over time.

Limited Sources Justification Signature Page for GES Hardware and Engineering Services in Support of JWST

Technical Officer: I certify that the facts presented in this justification are accurate and complete.

Paul H. Geithner, Deputy Project Manager-Technical — Date 2/27/14

Contracting Officer: I hereby determine that the anticipated cost to the Government will be fair and reasonable and certify that this justification is accurate and complete to the best of my knowledge and belief.

Felipe P. Romo, Contracting Officer — Date 2/27/14

Procurement Officer: I certify that this justification is accurate and complete to the best of my knowledge and belief.

fv Michael E. McGrath, Procurement Officer — Date 3/26/14

GSFC Competition Advocate: I certify that this justification is accurate and complete to the best of my knowledge and belief.

Arthur F. Obenschain, GSFC Competition Advocate — Date 3/31/14

Center Director: In accordance with FAR 8.405-6(d) (3), I approve this justification as accurate and complete to the best of my knowledge and belief.

Christopher J. Scolese, NASA/GSFC Center Director — Date 1 April 2014